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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,551	06/10/2005	Thierry Mazoyer	612.44330X00	4640

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EXAMINER	
CHAPMAN JR, JOHN E	

ART UNIT	PAPER NUMBER
2856	

NOTIFICATION DATE	DELIVERY MODE
07/05/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/511,551	MAZOYER ET AL.	
	Examiner	Art Unit	
	John E. Chapman	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-23 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 18 October 2004 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 10/18/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the temperature-sensitive element (claim 20) must be shown or the feature canceled from the claim. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The disclosure is objected to because of the following informalities:

Page 12, line 14, the patent application should be identified by country.

Appropriate correction is required.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not clear how to measure the "engine knock location in the combustion chamber of an internal-combustion engine."

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble of claim 21 is directed to an application of a measuring device, but no steps are recited in the body of the claim. The steps that comprise the method should be positively recited. Likewise for claims 22 and 23.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-6, 10-15 and 19-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Novak et al. (5,659,132).

Novak et al. discloses in Fig. 4 a device for measuring the pressure of a fluid present in a chamber (403), the device comprising a sensitive element (301) placed in a housing (annular support structure 302) interposed between two elements (401, 402) forming the chamber, wherein the housing (302) is open in the direction of chamber (403) and the sensitive element (301) is coated with a material (high temperature resin) filling the housing. See column 4, lines 40-63. The only difference, if any, between the claimed invention and the prior art consist in whether the annular support structure (302) comprises a seal interposed between the two elements (401, 402). The annular support structure (302) appears to comprise a seal interposed between the two elements (401, 402). Furthermore, it would have been obvious to provide an annular support structure (302) comprising a seal in order to seal the combustion chamber (403).

In addition, the annular support structure (302) is "borne by a seal" insofar as it may be adapted to be mounted to the gasket (303). See column 4, lines 29-34.

Regarding claim 2, the seal (303) in Fig. 4 comprises an intermediate sheet (circuit card 405) arranged between two extreme sheets (404). See column 5, lines 9-13.

Regarding claim 3, Novak et al. teaches providing a cut (groove) in each of the intermediate sheets (502, 503) in Fig. 5(b).

Regarding claim 4, the intermediate sheet (405) comprises an electric connection means (406).

Regarding claim 5, Novak et al. teaches using conventional printed circuit board technology. See column 5, lines 40-45.

Regarding claim 6, the extreme sheets (404) are inherently insulated from one another by the intermediate sheet (circuit card 405). Note that FR4 (column 5, line 38) is an insulator.

Regarding claim 10, Novak et al. discloses a conducting element (409, 410) for connecting the sensitive element (301) to the electric connection means (406).

Regarding claims 11 and 12, Novak et al. teaches bonding together intermediate sheets (502, 503). See column 5, lines 35-40. If "bonding" does not comprise glueing, it would have been obvious to use glue in order to bond together the sheets.

Regarding claim 13, Novak et al. teaches that the extreme layers (404) are formed from conventional gasket material (column 5, lines 18-24), and further teaches metal as a conventional gasket material (column 4, lines 22-25).

Regarding claim 14, Novak et al. teaches that the intermediate sheets (206, 207) in Fig. 2(a) may be made of metal. See column 4, lines 7-10.

Regarding claim 15, Novak et al. teaches a high temperature resin (column 4, line 53).

Regarding claim 20, Novak et al. teaches a temperature sensitive device. See column 4, lines 56-63.

Regarding claim 21, Novak et al. teaches that there are many processes of interest occurring within an engine combustion chamber, such as engine knock. See column 4, lines 56-63.

Regarding claim 22, Novak et al. teaches measurement of combustion chamber parameters.

Regarding claim 23, a knock sensor inherently detects "engine knock location in the combustion chamber of an internal-combustion engine" in that it indicates the cylinder in which knocking occurs.

10. Claims 7, 8 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novak et al. as applied to claim 1 above, and further in view of Danno (JP 2-157629).

Regarding claims 16 and 17, the only difference between the claimed invention and the prior art consists in providing a protective element that is folded back over sheets of the seal. Danno discloses an in-cylinder pressure sensor comprising a protective element (58) in Fig. 7 that is folded back over sheets (55a, 55b) of a seal. It would have been obvious to provide the pressure sensor (301) of Novak et al. with the protective element (58) of Danno, in order to protect the pressure sensor (301) of Novak et al.

Regarding claim 18, the only difference between the claimed invention and the prior art consists in providing a piezoelectric or priezoresistive sensor. Danno discloses an in-cylinder

pressure sensor comprising a piezoelectric element (52) in Fig. 7. It would have been obvious to provide the pressure sensor (301) of Novak et al. with the piezoelectric element (52) of Danno, in order to measure the pressure in the cylinder (403) of Novak et al.

Regarding claim 7, two opposite vertical faces of the sensitive element (52) in Fig. 7 of Danno et al. are connected to electrical connection means.

Regarding claim 8, two horizontal surfaces of the sensitive element (31) in Fig. 5 of Danno et al. are connected to electrical connection means.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Novak et al. as applied to claim 4 above, and further in view of Schaperkotter (5,380,014).

The only difference between the claimed invention and the prior art consists in using conducting glue to connect the sensitive element (301) to the electric connection means (406). It is well known in the art to use a conducting glue to connect a sensitive element to a metallic contact element, as taught by Schaperkotter (column 11, lines 13-31). Accordingly, merely to use a conducting glue to connect the sensor (301) of Novak et al. to the electrical connection means (406) would have been obvious to one of ordinary skill in the art.

12. Claims 1, 16-19 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Gurich et al. (DE 4207495).

Gurich et al. discloses in Figs. 5-7 a device for measuring the pressure of a fluid present in a chamber, the device comprising a sensitive element (50, 60, 70) placed in a housing (51, 61, 71) interposed between two elements forming the chamber, wherein the housing is open in the

direction of chamber and the sensitive element is coated with a material (52, 62, 72) filling the housing.

Regarding claims 16 and 17, the flange (51, 61, 71) comprises a wall folded back over extreme sheets (52, 54).

Regarding claim 18, the sensitive element is of a piezoelectric (60) or a piezoresistive (71) type.

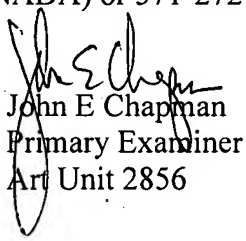
Regarding claims 21-23, Gurich et al. detects engine knocking in a combustion chamber.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chujo et al. (5,195,365) discloses a device for detecting a pressure in a combustion chamber. Popielas et al. (6,701,775) discloses a pressure sensor for measuring pressures in engine cylinders comprising a multiple layer steel (MLS) cylinder head gasket.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John E. Chapman whose telephone number is (571) 272-2191. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Art Unit 2856